

WELDING PROCEDURE SPECIFICATION

WPS- 3011-11B **REV. NO.:** 0 **DATE:** 9/1/2004 ****APPLICABILITY****

WELDING PROCESS/ES GMAW-S and GMAW-S ASME: X AWS: X

SUPPORTING PQ 30A-11B1 30A-11B2 **OTHER:**

JOINT This WPS shall be used in conjunction with the General Welding Standards (GWS) and Welding Fabrication Procedure (WFP) sections and criteria for joint details, repairs, NDE, inspection etc.

Weld Joint TypeButt/FilletClass:Full or Partial PenetrationSee GWS 1-06 for detailsPreparation:Thermal/Mechanical

Root Opening: Backing: Metal

Backgrind root: N Backing Mat.:

Bkgrd Method: GTAW Flux: Backing Retainer:

FILLER METALS: Class: ER100S-1 and ER100S-1

A No: 10 **SFA Class:** 5.28 **and** 5.28 **F No:** 6 **and** 6 **Size:** 3/64 3/64 3/64

Insert: N Insert Desc.: N/A Weld Metal Thickness Range:
Flux: Type: NA Size: 0 AWS: 0.120 thru 99.000

Filler Metal Note: ASME: 0.065 thru 5.000

BASE MATERIAL P No. 11B Gr No. to: P No. 11B Gr No.

Spec. HSLA-100 Grade: to: Spec. HSLA-100 Grade:

Pipe Dia Range: Groove > 0

Thickness Range: Groove: AWS: 0.120 thru 99.000 ASME: 0.065 thru 5.000

QUALIFIED POSITIONS 1G **Vertical Progression:** Preheat Min. Temp.: 200 F **GAS: Shielding:** ARGON/C Interpass Max. Temp. **Gas Composition: %** 5 400 **F** 95 % % **Preheat Maintinance:** 200 F Gas Flow Rate cfh 25 **to** 50 **%** Backing Gas/Comp: PWHT: Time @ F Temp. 0 **Backing Gas Flow cfh** 0 **to** 0 **F** Trailing Gas/Comp: % Temp. Range: 0 **F** to

PREPARED BY Kelly Bingham DATE: 3/30/2004

Signature on file at FWO-DECS

APPROVED BY Tobin Oruch **DATE:** 9/1/2004

Signature on file at FWO-DECS

Note:For SC/SS/ML-1/ML-2 work, this WPS requires independent review.

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WELDING CHARACTERISTICS:

Current: DCEP and DCEP Tungsten type: N/A Transfer Mode: Spary

Ranges: Amps 270 to 300 Pulsing Cycle: to

Volts 27 to 31 Background Current:

Fuel Gas: N/A Flame: N/A Braze temp. F 0 to 0

WELDING TECHNIQUE: For cleaning, grinding, and inspection criteria refer to Volume 2, Welding

Fabrication Procedures

Technique: Manual **Cleaning Method:**

Single Pass of Multi Pass: M tringer or Weave bead (S/W): S Oscillation: N

GMAW Gun Angle °: 5 to 15 Forehand or Backhand for GMAW (F/B): F

Maximum K/J Heat Input 52 Travel speed/ipm: 10 - 17 Gas Cup Size:

PROCEDURE QUALIFIED FOR:

Charpy "V" Notch: N Nil-Ductil Transition Temperature: N Dynamic Tear: Y

Comments:

Weld Layer	Manual Process	Filler Metals	Size	Size Amp Range		Volt Range		Travel ipm		Nozzel Angle	Other
1	3MAW-SP	ER100S-1	3/64	270	300	27	31	10	17	5	
2	3MAW-SF	ER100S-1	3/64	270	300	27	31	10	17	15	
3			3/64							10	
4			3/64								
5											
6											
7											
0											

REM. * Weld layers are representative only - actual number of passes and layer sequence may vary due to variations in joint design, thickness and fitup.